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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,140	06/09/2005	Christophe Martinez	007875-0316313	8435
909	7590	09/26/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			CHU, CHRIS H	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2874	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/538,140

Applicant(s)

MARTINEZ, CHRISTOPHE

Examiner

Chris H. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-8, drawn to an optical waveguide with an artificial cladding grating, classified in class 385, subclass 37.
- II. Claims 9-21, drawn to a method of manufacturing a waveguide with an artificial cladding grating, classified in class 65, subclass 30.13.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of making. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case (2) applies because the waveguide of invention I can be <sup>mc</sup> ~~made~~ manufactured by a different process, such as one in which the core is not formed by modifying a refractive index of the substrate.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and require different searches, restriction for examination purposes as indicated is proper.

During a telephone conversation with Christopher Lair on September 1, 2006, a provisional election was made with traverse to prosecute the invention of an optical waveguide with an artificial cladding grating, claims 1-8. Affirmation of this election

must be made by applicant in replying to this Office action. Claims 9-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Information Disclosure Statement***

The prior art documents submitted by applicant in the Informational Disclosure Statement filed on September 8, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

Five (5) sheets for formal drawings were filed June 9, 2005 and have been accepted by the Examiner.

### ***Specification***

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahuja et al. (EP 1,182,475 A2 from the applicant's Information Disclosure Statement).**

Regarding claim 1, Ahuja et al. discloses an artificial cladding grating component for use in integrated optics comprising a substrate (15 in Fig. 5), an optical guide core (12 in Fig. 5), an optical cladding (14 in Fig. 5) formed in the substrate independent of the core and surrounding at least a portion of the core to form a zone of interaction, a grating (16 in Fig. 3) formed in the zone of interaction to couple a guided mode of the core to a cladding mode, wherein the zone of interaction is configured to provide coupling variation (see abstract) between the guided mode of the core and the cladding mode along a direction of propagation of the modes and wherein a refractive index of the cladding is different from a refractive index of the substrate and lower than a refractive index of the core (see column 4, lines 54-57 and column 5, lines 33-35).

Regarding claim 2, Ahuja et al. discloses the coupling variation along the direction of propagation of the modes to correspond to a variation of the coupling efficiency in the abstract and column 5, 14-17.

Regarding claim 3, Ahuja et al. discloses a section of the cladding in the interaction zone modulated to create the coupling variation in Figs. 3 and 5-9.

Regarding claim 4, Ahuja et al. discloses a centering of the core with respect to the cladding modulated to create the coupling variation in Figs. 3 and 5-9. Ahuja et al. discloses in column 5, lines 1-13 that the height of the perturbations are defined to be distances of the clad surface with respect to the core. As can be seen from Fig. 3, the

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perturbations cause the centering of the core with respect to the cladding to be modulated, which causes the coupling variation.

Regarding claim 5, Ahuja et al. discloses a modulation of the section of the cladding to be uniform in Fig. 9. Column 4, lines 42-49 states that the perturbations can be regular and vary along the length of the grating.

Regarding claim 6, Ahuja et al. discloses a modulation of the centering of the core with respect to the cladding to be uniform in Fig. 9.

Regarding claim 7, Ahuja et al. discloses a modulation of the section of the cladding to be a discrete variation in Figs. 3 and 5-8.

Regarding claim 8, Ahuja et al. discloses a modulation of the centering of the core with respect to the cladding to be a discrete variation in Figs. 3 and 5-8.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris H. Chu whose telephone number is 571-272-8655. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general or clerical nature should be directed to the Technology  
Center 2800 receptionist at telephone number (571) 272-1562.



Chris H. Chu  
Patent Examiner  
September 13, 2006



MICHELLE CONNELLY-CUSHMAN  
PRIMARY EXAMINER

9/18/06